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EXAMINER

KRUER, KEVIN R

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/964,693

Applicant(s)

WATANABE ET AL.

Examiner

Kevin R Kruer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,17 and 19-24 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,2,4,17 and 19-24 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. The rejection of claims 17, 19 (17), 20(17), 21(17), and 22 (17), under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement has been overcome by amendment.
4. Claim 23 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The original disclosure contains support for laminates comprising a base layer and an antistatic layer having a light transmittance of 40% or more, a haze value of 60% or less when the total thickness of 3mm (page 40, last paragraph). However, there is no support for laminates comprising an intermediate layer wherein the laminate has a light transmittance of 40% or more, a haze value of 60% or less when the total

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thickness of 3.3 mm. Furthermore, there is no support in the original specification for the newly claimed endpoints of "62% or more" light transmittance or "8.3% or less" haze. Applicant pointed to the inventive examples of Table 2 to support said amendment, but neither endpoint is supported by the examples. Specifically, the laminate thickness of the examples is not 3.3mm. The examples comprise a base layer with a thickness of 3.0mm, an intermediate layer with a thickness of 0.3mm, and a surface layer with a thickness of 0.4um-3um. Thus, none of the examples in Table 2 are drawn to laminates with a thickness of 3.3mm. Furthermore, the examples do not support the implicit endpoints 100% light transmittance or 0% haze. Since the disclosure on page 40 of the specification is drawn to a laminate with a thickness of 3.0mm rather than the claimed 3.3mm, it is insufficient support to demonstrate that applicant had possession of the claimed invention of claim 23 at the time the application was filed.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 1, 2, 17, 20, 21, 22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP2000-090230A (herein referred to as Watanabe '230) in view of Yoshizumi (US 4,431,764).

Watanabe'230 teaches a flame retardant molded object formed from a composition comprising 100pbw vinyl chloride resin having a chlorination degree of 58-73% and 4-30pbw titanium dioxide (0017). Said layer is taught to have a thickness of 2-

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12um (0041) and is understood to read on the claimed "base layer." On at least one side of the molded object, a surface layer may be applied. The surface layer (herein relied upon to read on the claimed "intermediate layer") comprises 0-20 titanium dioxide (abstract), a chlorination degree of 50-57% (paragraph 0017 of translation), and a thickness of about 200um or more (paragraph 0046). The composition can be used in equipment in which semiconductor parts are made (paragraph 003).

Watanabe'230 does not teach that the molded object may be coated on one side with an antistatic composition. However, Yoshizumi teaches an antistatic coating composition comprising tin oxide (abstract) that is coated onto nonconductive coatings that need antistatic properties (col 1, lines 11+). The tin oxide is dispersed in a binder resin such as vinyl chloride or a thermosetting resin (col 2, lines 41+). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the coating taught in Yoshizumi onto the substrate taught in Watanabe'230. The motivation for doing so would have been to provide the substrate with antistatic properties.

With respect to claim 19, Yoshizumi teaches that the binder of the anti-static layer may comprise vinyl chloride, but does not teach the claimed chlorination content of the vinyl chloride binder. However, Watanabe'230 teaches that the chlorination degree of a polymer will affect its fire resistance, thermal stability, and moldability (paragraph 0015). Therefore, it would have been obvious to one of ordinary skill in the art to control the chlorination degree of the vinyl chloride binder in order to control the laminate's moldability, thermal stability, and fire resistance.

With regard to the claimed intermediate layer's chlorination degree of claim 1 and 2, the range taught in Watanabe'230 (50-57%) is just outside of the claimed range (58-73%). However, the courts have held that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties (MPEP 2144.05(R-1)). In the present case, the examiner takes the position that one of ordinary skill in the art would expect an intermediate layer having a chlorination degree of 57% (as anticipated by Watanabe'230) to have the same properties as an intermediate layer with a chlorination degree of 58%. Alternatively, Watanabe'230 teaches that the chlorination degree of a polymer will affect its fire resistance, thermal stability, and moldability (paragraph 0015). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the chlorination degree of the intermediate layer taught in Watanabe'230. The motivation for doing so would have been to optimize the laminate's fire resistance, thermal stability, and moldability.

With respect to the claimed intermediate layer's thickness of claim 17, the examiner takes the position that the teaching of Watanabe that the thickness of the intermediate layer may be "about 200um" anticipates the claimed thickness of "less than 200um" since "about 200um" is inclusive of thicknesses that are slightly less than 200um. With regard to the thickness of claim 22, Watanabe teaches that the thickness of the intermediate layer affects the laminate's chemical resistance (0041). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made

to vary the thickness of the intermediate layer. The motivation for doing so would have been to obtain the desired chemical resistance while reducing costs.

7. Claims 1, 2, 17, 21, 22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP2000-080230A (herein referred to as Watanabe '230) in view of Holley (US 5,508,343).

Watanabe'230 teaches a flame retardant molded object formed from a composition comprising 100pbw vinyl chloride resin having a chlorination degree of 58-73% and 4-30pbw titanium dioxide (0017). Said layer is taught to have a thickness of 2-12um (0041) and is understood to read on the claimed "base layer." On at least one side of the molded object, a surface layer may be applied. The surface layer (herein relied upon to read on the claimed "intermediate layer") comprises 0-20 titanium dioxide (abstract), a chlorination degree of 50-57% (paragraph 0017 of translation), and a thickness of 200um or more (paragraph 0046). The composition can be used in equipment in which semiconductor parts are made (paragraph 003).

Watanabe'230 does not teach that the molded object may be coated on one side with an antistatic composition. However, Holley teaches an antistatic composition comprising a water-soluble polymer, a titanate, and an ammonium salt (abstract). The composition is coated on substrates (col 2, lines 47+) such as object utilized in the production of semiconductor electronics (col 1, lines 14+) in order to prevent damage that can be caused by static build-up (col 1, lines 27+). NOTE: the molded objects of Watanabe can be utilized in equipment to make semiconductors. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

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coat the molded object taught in Watanabe '230 with the anti-static composition taught in Holley. The motivation for doing so would have been to prevent damage to semiconductor electronics that could come in contact with said object.

With regard to the claimed intermediate layer's chlorination degree of claim 1 and 2, the range taught in Watanabe'230 (50-57%) is just outside of the claimed range (58-73%). However, the courts have held that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties (MPEP 2144.05(R-1)). In the present case, the examiner takes the position that one of ordinary skill in the art would expect an intermediate layer having a chlorination degree of 57% (as anticipated by Watanabe'230) to have the same properties as an intermediate layer with a chlorination degree of 58%. Alternatively, Watanabe'230 teaches that the chlorination degree of a polymer will affect its fire resistance, thermal stability, chemical resistance, and moldability (paragraph 0015). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the chlorination degree of the intermediate layer taught in Watanabe'230. The motivation for doing so would have been to optimize the laminate's fire resistance, thermal stability, chemical resistance, and moldability.

With respect to the claimed intermediate layer's thickness of claim 17, the examiner takes the position that the teaching of Watanabe that the thickness of the intermediate layer may be "about 200um" anticipates the claimed thickness of "less than 200um" since "about 200um" is inclusive of thickness that are slightly less than 200um.

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With regard to the thickness of claim 22, Watanabe teaches that the thickness of the intermediate layer affects the laminate's chemical resistance (0041). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the thickness of the intermediate layer. The motivation for doing so would have been to obtain the desired chemical resistance while reducing costs.

8. Claims 1, 2, 4, 17, 19, 20, 21, 22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP11067945A (herein referred to as Watanabe'945) in view of Yoshizumi (US 4,431,764).

Watanabe'945 teaches a molded material consisting of a flame retardant vinyl chloride resin molded material. The molded material may comprise a substratum (herein understood to read on the claimed "base layer") and a surface layer (herein relied upon to read on the claimed "intermediate layer") on at least one side thereof (paragraph 0038). The substratum comprises 100pbw vinyl chloride based resin, 4-30pbw titanium oxide, and 1-10pbw of a molybdenum compound (paragraph 0038), wherein the vinyl chloride has a degree of chlorination between 58-73%(paragraph 0040). Said layer is taught to preferably have a thickness of 2-12mm (0045). The surface layer comprises 0-20pbw titanium oxide, 0-8pbw molybdenum compound, (abstract) and 100pbw vinyl chloride based resin. The vinyl chloride based resin preferably has a chlorination degree of 50-57% in order to improve the laminate's chemical resistance (paragraph 0025 of translation). The surface layer has a thickness of 200um or more (paragraph 0045). The molded material is utilized in semiconductor fabrication machines and equipment (paragraph 002).

Watanabe'945 does not teach that the molded object may be coated on one side with an antistatic composition. However, Yoshizumi teaches an antistatic coating composition comprising tin oxide (abstract) that is coated onto nonconductive coatings that need antistatic properties (col 1, lines 11+). The tin oxide is dispersed in a binder resin such as vinyl chloride or a thermosetting resin (col 2, lines 41+). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the coating taught in Yoshizumi onto the substrate taught in Watanabe'945. The motivation for doing so would have been to provide the substrate with antistatic properties.

With respect to claim 19, Yoshizumi teaches that the binder of the anti-static layer may comprise vinyl chloride, but does not teach the claimed chlorination content of the vinyl chloride binder. However, Watanabe'945 teaches that the chlorination degree of a polymer will affect its fire resistance, thermal stability, and moldability (paragraph 0015). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to control the chlorination degree of the vinyl chloride binder. The motivation for doing so would have been to control the laminate's moldability, thermal stability, and fire resistance.

With regard to the claimed intermediate layer's chlorination degree of claim 1 and 2, the range taught in Watanabe'945 (50-57%) is just outside of the claimed range (58-73%). However, the courts have held that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties (MPEP

2144.05(R-1)). In the present case, the examiner takes the position that one of ordinary skill in the art would expect an intermediate layer having a chlorination degree of 57% (as anticipated by Watanabe'945) to have the same properties as an intermediate layer with a chlorination degree of 58%. Alternatively, Watanabe'945 teaches that the chlorination degree of a polymer will affect its fire resistance, thermal stability, chemical resistance, and moldability (paragraph 0015). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the chlorination degree of the intermediate layer taught in Watanabe'945. The motivation for doing so would have been to optimize the laminate's fire resistance, thermal stability, chemical resistance, and moldability.

9. Claims 1, 2, 4, 17, 21, 22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP11067945A (herein referred to as Watanabe'945) in view of Holley (US 5,508,343).

Watanabe'945 teaches a molded material consisting of a flame retardant vinyl chloride resin molded material. The molded material may comprise a substratum (herein understood to read on the claimed "base layer") and a surface layer (herein relied upon to read on the claimed "intermediate layer") on at least one side thereof (paragraph 0038). The substratum comprises 100pbw vinyl chloride based resin, 4-30pbw titanium oxide, and 1-10pbw of a molybdenum compound (paragraph 0038), wherein the vinyl chloride has a degree of chlorination between 58-73% (paragraph 0040). Said layer is taught to preferably have a thickness of 2-12mm (0045). The surface layer comprises 0-20pbw titanium oxide, 0-8pbw molybdenum compound,

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(abstract) and 100pbw vinyl chloride based resin. The vinyl chloride based resin preferably has a chlorination degree of 50-58% in order to improve the laminate's chemical resistance (paragraph 0025 of translation). The surface layer has a thickness of 200um or more (paragraph 0045). The molded material is utilized in semiconductor fabrication machines and equipment (paragraph 002).

Watanabe'945 does not teach that the molded object may be coated on one side with an antistatic composition. However, Holley teaches an antistatic composition comprising a water-soluble polymer, a titanate, and an ammonium salt (abstract). The composition is coated on substrates (col 2, lines 47+) such as object utilized in the production of semiconductor electronics (col 1, lines 14+) in order to prevent damage that can be caused by static build-up (col 1, lines 27+). NOTE: the molded objects of Watanabe can be utilized in equipment to make semiconductors. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to coat the molded object taught in Watanabe '945 with the anti-static composition taught in Holley. The motivation for doing so would have been to prevent damage to semiconductor electronics that could come in contact with said object.

With regard to the claimed intermediate layer's chlorination degree of claim 1 and 2, the range taught in Watanabe'945 (50-57%) is just outside of the claimed range (58-73%). However, the courts have held that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties (MPEP 2144.05(R-1)). In the present case, the examiner takes the position that one of ordinary

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skill in the art would expect an intermediate layer having a chlorination degree of 57% (as anticipated by Watanabe'945) to have the same properties as an intermediate layer with a chlorination degree of 58%. Alternatively, Watanabe'945 teaches that the chlorination degree of a polymer will affect its fire resistance, thermal stability, chemical resistance, and moldability. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the chlorination degree of the intermediate layer taught in Watanabe'945. The motivation for doing so would have been to optimize the laminate's fire resistance, thermal stability, chemical resistance, and moldability.

10. Claims 1, 2, 19, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP20001192520A (herein referred to as Watanabe'520) in view of Yoshizumi (US 4,431,764).

Watanabe'520 teaches a molded material consisting of a flame retardant vinyl chloride resin molded material. The molded material may comprise a substratum (herein understood to read on the claimed "base layer") and a surface layer (herein relied upon to read on the claimed "intermediate layer") on at least one side thereof (paragraph 0076-0077). The substratum comprises 100pbw vinyl chloride based resin, 5-50pbw titanium compound (0104-0112) wherein the vinyl chloride has a degree of chlorination less than 56% (paragraph 0076). Said layer is taught to preferably have a thickness of 2-12mm (0155). The surface layer comprises 0-30pbw titanium compound (0104-0112) and 100pbw vinyl chloride based resin. The vinyl chloride based resin preferably has a chlorination degree of 58-73% (0077). The surface layer has a

thickness of 400um or more (paragraph 0155). The molded material is utilized in semiconductor fabrication machines and equipment.

Watanabe'520 does not teach that the molded object may be coated on one side with an antistatic composition. However, Yoshizumi teaches an antistatic coating composition comprising tin oxide (abstract) that is coated onto nonconductive coatings that need antistatic properties (col 1, lines 11+). The tin oxide is dispersed in a binder resin such as vinyl chloride or a thermosetting resin (col 2, lines 41+). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the coating taught in Yoshizumi onto the substrate taught in Watanabe'520. The motivation for doing so would have been to provide the substrate with antistatic properties.

With respect to claim 19, Yoshizumi teaches that the binder of the anti-static layer may comprise vinyl chloride, but does not teach the claimed chlorination content of the vinyl chloride binder. However, Watanabe'520 teaches that the chlorination degree of a polymer will affect is fire resistance, thermal stability, and moldability. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to control the chlorination degree of the vinyl chloride binder. The motivation for doing so would have been to control the laminate's moldability, thermal stability, and fire resistance.

11. Claims 1, 2, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP20001192520A (herein referred to as Watanabe'520) in view of Holley (US 5,508,343).

Watanabe'520 teaches a molded material consisting of a flame retardant vinyl chloride resin molded material. The molded material may comprise a substratum (herein understood to read on the claimed "base layer") and a surface layer (herein relied upon to read on the claimed "intermediate layer") on at least one side thereof (paragraph 0076-0077). The substratum comprises 100pbw vinyl chloride based resin, 5-50pbw titanium compound (0104-0112) wherein the vinyl chloride has a degree of chlorination less than 56%(paragraph 0076). Said layer is taught to preferably have a thickness of 2-12mm (0155). The surface layer comprises 0-30pbw titanium compound (0104-0112) and 100pbw vinyl chloride based resin. The vinyl chloride based resin preferably has a chlorination degree of 58-73% (0077). The surface layer has a thickness of 400um or more (paragraph 0155). The molded material is utilized in semiconductor fabrication machines and equipment.

Watanabe'520 does not teach that the molded object may be coated on one side with an antistatic composition. However, Holley teaches an antistatic composition comprising a water-soluble polymer, a titanate, and an ammonium salt (abstract). The composition is coated on substrates (col 2, lines 47+) such as object utilized in the production of semiconductor electronics (col 1, lines 14+) in order to prevent damage that can be caused by static build-up (col 1, lines 27+). NOTE: the molded objects of Watanabe can be utilized in equipment to make semiconductors. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to coat the molded object taught in Watanabe '520 with the anti-static composition taught

in Holley. The motivation for doing so would have been to prevent damage to semiconductor electronics that could come in contact with said object.

Response to Arguments

Applicant's arguments filed December 3, 2004 have been fully considered but they are not persuasive.

Applicant amendment to claim 17 is sufficient to overcome the 35 U.S.C. 112, first paragraph rejection of claims 17, 19(17), 20 (17), 21(17), and 22(17). Since said rejection has been overcome, applicant's arguments with regard to said rejection are moot.

With regard to claim 23, Applicant argues that inventive examples 10 and 14 demonstrate that the original disclosure supports the claimed laminate wherein said laminate has a total light transmittance of 62% or more and a haze value of 8.3% or less when its thickness is 3.3mm. The examiner respectfully disagrees. The examiner initially notes that inventive examples 10 and 14 do not have a thickness of 3.3mm. Said examples comprise a base layer with a thickness of 3.0mm, an intermediate layer with a thickness of 0.3mm, and a surface layer with a thickness of 0.4um-3um. Thus, the examples in Table 2 are drawn to laminates with a thickness of greater than 3.3mm. Applicant argues that the thickness of the surface layer is neglected, but the examiner respectfully disagrees. The claim specifically states that the resin molding (which comprises a transparent base layer, an intermediate layer, and a antistatic surface layer) "has a total light transmittance of 62% or more and a haze value of 8.3% or less when its thickness is 3.3mm." Since the claims specifically state that said surface layer

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is part of the resin molding having the claimed light transmittance and haze values, the thickness of the antistatic surface layer cannot be neglected as suggested by applicant.

The claimed ranges are further understood to contain new matter because the inventive examples do not support the implicit endpoints 100% light transmittance or 0% haze. Since the disclosure on page 40 of the specification is drawn to a laminate with a thickness of 3.0mm rather than the claimed 3.3mm, it fails to demonstrate that applicant had possession of the claimed invention of claim 23 at the time the application was filed.

With regard to Watanabe'230 in view of Yoshimzumi and/or Holley (paragraphs 9 and 10 of the non-final rejection mailed 9/04), Applicant argues that the examiner has not commented on applicant's argument that JP'230, in effect, teaches away from employing a PVC with a chlorination degree of 58% for the surface layer (herein relied upon to read on the claimed intermediate layer). The examiner initially notes that it is not immediately clear to what arguments Applicant is referring. The examiner believes Applicant is attempting to incorporate by reference the arguments of 4/19/2004. However, the pending rejection was newly applied in the last Office action so it is not immediately clear what arguments in the response of 4/19/2004 Applicant considers to be relevant to the pending rejection. The examiner is, therefore, unable to fully address applicant's concerns. The examiner will note that, in general, the courts have held that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties (MPEP 2144.05(R-1)). In the present case, the examiner takes the position that one of ordinary skill in the art would expect an

intermediate layer having a chlorination degree of 57% (as anticipated by Watanabe'945) to have the same properties as an intermediate layer with a chlorination degree of 58%. Applicant has not provided any evidence that demonstrates anything to the contrary.

Applicant further argues that the comments with regard to JP'230 given in the amendment filed April 19, 2004 are incorporated by reference. Applicant further clarifies what arguments "in particular" they deem to be relevant to the pending rejection. Therefore, the examiner has only considered the arguments that have been transcribed into the reply of 12/03/2004.

Specifically, Applicant argues that it is impossible to convert the laminate of JP'230 into a laminate that comprises a base layer having a chlorination degree of from 50-57% and a thickness of from 2-12mm and a surface layer having a chlorination degree of from 58-73% and a thickness of 0.2-1.6mm. However, the examiner notes that applicant's arguments do not agree in scope with the rejected claims. Specifically, JP-230 has not been applied to reject a laminate comprising a base layer having a "chlorination degree of from 50-57%." Claims 1, 2, 17, and 20-22 (which JP-230 has been utilized to reject) do not require the base layer to have a chlorination degree of 5-57%. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a base layer with a chlorination degree of 50-57%) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from

the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant further argues that PVC having a chlorination degree of 57% differs from PVC having a chlorination degree of 58% in point of their resin properties. In ordinary reaction, PVC is produced to have a chlorination degree of 56.8% (herein referred to as U-PVC). A resin prepared by further chlorinating the ordinary PVC with chlorine gas added thereto is a chlorinated PVC and has a chlorination degree of 58% or more (herein referred to as C-PVC). Accordingly, C-PVC requires additional steps for its production, is expensive in comparison to U-PVC, and has poor chemical resistance and processability. Applicant's summary of the prior art is noted. However, as noted by applicant (last line of the response mailed 12/3/04), the differences between U-PVC and C-PVC are well known by one skilled in the art. Said differences are not in JP'230. Since the skilled artisan was well aware of the differences between U-PVC and C-PVC and was aware of the lamination technique taught in JP'230 to utilize both U-PVC and C-PVC in a laminate in such a manner as to synergetically enhance the properties of said laminate, it would follow that the various laminates disclosed by applicant would have been obvious based upon the desired balance of properties.

According to Applicant, it is impossible to directly employ 58% PVC in place of 57%PVC. The examiner initially notes that arguments of counsel cannot take the place of evidence in the record (MPEP 2145). While argument's counsel argues that it is impossible to directly employ 58%PVC in place of 57% PVC, there is no evidence of record to support said conclusion. To the contrary, Applicant admits that PVCs with

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degrees of chlorination ranging from 50-73% are well known in the art. Thus, the evidence and prior art of record suggests that a PVC with any desired degree of chlorination may be polymerized and utilized based upon the chemical and physical properties that are desired (see last paragraph of page 10). While the examiner concedes said resins may be produced by different method and vary in costs, such differences are not evidence of non-obviousness.

With respect to the intermediate layer thickness in claim 17, Applicant argues that JP-230 does not anticipate the claimed thickness. Specifically, Applicant argues that paragraph (0041) teaches that surface layers with a "thickness of 0.2mm or less has poor chemical resistance." The examiner respectfully disagrees. JP'230 teaches that the intermediate layer has its thickness desirably to set to "about 2- 12mm (third line, paragraph 0041)." Thus, JP'230 anticipates intermediate layer thicknesses of slightly less than 2mm.

With regard to the intermediate layer thickness of claim 22, the examiner took the position that the thickness of the intermediate layer affects the laminates chemical resistance, and therefore, it would have been obvious to vary the thickness of said layer (0041). Applicant argues that JP'230 teaches against thickness of less than 0.2mm (0041). The examiner respectfully disagrees. JP'230 teaches that the intermediate layer has its thickness desirably to set to "about 2- 12mm (third line, paragraph 0041)." Thus, JP'230 clearly teaches that intermediate layers may have thickness slightly less than 2mm (i.e. "about 2mm"). Furthermore, JP'230 teaches that the thickness of the intermediate layer is a result effective variable. Therefore, the examiner maintains the

position that it would have been obvious to one of ordinary skill in the art to vary the thickness of the intermediate layer for the reasons noted in the rejection.

With respect to Yoshizumi and/or Holley, Applicant relies on the same comments as those given in the response filed April 19, 2004 as to why one of ordinary skill in the art would not use the Yoshizumi anti-static layers as an outside surface layer in JP'230. Specifically, Applicant argues that the antistatic layer taught in Yoshizumi is a surface layer and that JP'230 teaches against the use of PVC having a chlorination degree of from 58-73% as a surface layer (see page 12 of 4/19/2004 response). The examiner respectfully disagrees. JP'230 does not explicitly teach against the use of PVC having a chlorination degree of from 58-73% as a surface layer. To the contrary, JP'230 teaches that the chlorination degree of various layers of a PVC laminate may be selected such that the resulting laminate has the desired combination of chemical and physical properties. Specifically, JP'230 teaches that the degree of chlorination influences the thermal stability, molding properties, and working properties of the PVC (0015). Thus, the examiner maintains the position that the combination of JP'230 in view of Yoshizumi is obvious. Furthermore, the examiner notes in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the chlorination degree of the anti-static layer) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed.

Cir. 1993). Only claim 19 (applicant refers, in error, to claim 22) recites a chlorination degree for said antistatic layer.

Applicant further argues that the description of paragraph (0015) relates to the base layer and that the chlorination degree of the intermediate layer must be discussed separately from the description of paragraph (0015). The examiner respectfully disagrees. Paragraph (0015) teaches the result effective variables that are affected by the degree of chlorination. As admitted by Applicant, the differences in properties between U-PVC and C-PVC are well known by one skilled in the art (bottom of page 10). Since the differences recited in paragraph (0015) are well known in the art, there is no reason why one skilled in the art would consider the disclosure of paragraph 0015 to be exclusive to the base layer.

Applicant further argues that since the intermediate layer in the present invention is thin and does not have any direct influence on the chemical resistance of the laminate, the chlorination degree of the intermediate layer could not be taught by paragraph (0015). Said argument is contradictory to the disclosure of the specification. Specifically, paragraphs 0037 and 0039 (description of the 9th and 10 embodiments of the invention) discuss selecting the chlorination degree of the intermediate layer in order to control chemical resistance of the molding.

With regard to the rejection of claims based upon the teachings of JP'945 in view of Yoshizumi and/or Holley, Applicant argues that the examiner does not comment on Applicant's arguments that JP'945 in effect teaches against employing a chlorination degree of 58% for the intermediate (surface) layer. Applicant further argues that the

examiner does not comment on Applicant's arguments as to why one of ordinary skill in the art would not use the Yoshizumi antistatic layer as an outside surface layer in JP'945. However, Applicant does not explain to what arguments that they are referring. Therefore, the examiner is not able to fully respond to applicant's arguments.

Applicant further argues that U-PVC and C-PVC differ from one another in point of their production, properties, and costs. Applicant's attention is directed to the examiner's arguments above with regard to the difference between U-PVC and c-PVC and the obviousness to use one in place of the other.

Furthermore, Applicant argues that the surface layer of JP'945 has a chlorination degree of from 50-57%, and it improves the chemical resistance and corrosion resistance of the laminate. (0045). If the chlorination degree of the surface layer is changed to 58% or more, then the chemical resistance and corrosion resistance of the surface layer are poor and such a change would overstep the object of JP'945. The examiner respectfully disagrees. JP'945 teaches the result effective variable that are affected by the degree of chlorination (0025). As admitted by Applicant, the differences in properties between U-PVC and C-PVC are well known by one skilled in the art (bottom of page 10). Since the differences recited in paragraph 0025 of JP'945 are well known in the art, there is no reason why one skilled in the art would consider the disclosure of paragraph (0015) to be exclusive to the base layer.

With regard to the Yoshizumi, Applicant argues that the chlorination degree of the binder resin in the antistatic layer is an entirely different issue from the matter of chlorination degree of the base layer. Specifically, the antistatic layer is tin and it could

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not be discussed on the same level as that of the base layer. The examiner respectfully disagrees. JP'945 teaches the result effective variables that are affected by the degree of chlorination (0025). Furthermore, Applicant admits the differences in properties between U-PVC and C-PVC are well known by one skilled in the art (bottom of page 10). Since the differences recited in paragraph (0025) of JP'945 are well known in the art, there is no reason why one skilled in the art would consider the disclosure of paragraph (0025) to be exclusive to the base layer.

With regard to Holley, Applicant relies on the same arguments set forth in the amendment filed April 19, 2004 and the arguments that applicants employ above. With regards to applicant's employed above, the examiner directs applicant's attention to said comments above. With regard to the comments of April 19, 2004, it is not immediately clear what arguments applicant deems to be relevant to the pending rejection. Therefore, the examiner is unable to fully respond to applicant's concerns.

With regard to the rejection based upon the teachings of JP'520 in view of Yoshizumi, Applicant argues that JP'520 teaches three embodiments (A7, D5, and D7) wherein the base layer has a chlorination degree of 58-73%. Applicant's arguments are noted. However, JP'520 was relied upon to teach a laminate with a base layer having a chlorination degree of less than 56%. Since Applicant has not compared the closest prior art to the claimed invention, Applicant's arguments are moot.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R Kruer whose telephone number is 571-272-1510. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "K R K", with a horizontal line extending from the final "K".

Kevin R. Kruer
Patent Examiner-Art Unit 177339